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ABSTRACT

This chapter discusses a counselor educator's experiences with computer technology from 1982 through late 1999. Initially, this college professor became disenchanted with computer-use, but by 1987 he discovered that a personal computer was of great use to him. In 1996 he began utilizing e-mail and discovering the potential of the Internet as an educational tool. By 1998 he was involved in his university's distance learning and Web-based training initiatives. He also designed a Web-based training course. As a well-versed user of technology, he still believes that much of what counselor educators teach must be taught in person, professor to student, using traditional methods or video conferences, regardless of whether the courses are on or off campus. However, much of the didactic content that counselor educators teach, including counseling and career development theory, measurement theory, social and cultural foundations, and professional issues can be taught just as well using Web-based training courses as well as they can using traditional approaches. This chapter concludes by offering a list of suggestions for counselor educators who are newcomers to web-based training, video conferencing, and distance learning. (MKA)

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The Odyssey of a Technologically Challenged Counselor Educator Into Cyberspace

DUANE BROWN

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In 1982 my wife both surprised and frightened me with a gift: a brand-new, state-of-the-art computer. Her intent was aimed at least partially at helping me with one of the essential aspects of my work—my writing. However, I have long suspected that my wife's secondary motive was to spare my long-suffering secretaries from the horrors of interpreting my handwriting in draft after draft of articles, chapters, and books. I saw her purposes, agreed with them, and set my course toward computer literacy. It was to be a longer voyage than I envisioned.

The fright I experienced when I received my wife's gift was stimulated by one piece of the hardware: the keyboard. I had not taken typing in high school or elsewhere because I did not wish to become a secretary. In fact, my visceral reaction to clerical duties is so strong as to evoke anxiety and nausea whenever I engage in them. My concept of hell is to have my Self-Directed Search misinterpreted by Lucifer and be sentenced to an eternity of typing, filing, and mutilating data and information. Nevertheless, I screwed my courage to the sticking point and ordered a software program called Typing Tutor. After installing this substitute for a business education teacher, I dutifully awoke each morning to practice my typing for 30 minutes or so. Soon I was so discouraged that my self-esteem was at an all-time low. I had been utterly defeated by a piece of software that kept telling me that I was making more mis-

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takes than I had words on the paper and that my speed, when normed on a group of average 7-year olds, was one standard deviation below the mean!

I vowed not to be defeated by something that could be placed on a floppy disk, however, and went in search of a typing class taught by a real teacher. I enrolled in a continuing education typing class at the local high school, purchased the book, and set out to conquer typing. It did not work. My fingers strayed too far from the home keys and refused to work in a rhythm that produced words that remotely resembled those that appeared in any known dictionary. Also, I kept noticing that in terms of speed I was last in the class. I dropped out and sold the computer for half of what my wife had paid for it. I decided that improving my handwriting was easier than learning to use a computer.

The Awakening

Fast forward to 1987 and I was still without a computer. I also found myself confronted with an interesting conundrum. How could I keep detailed records, file flawless reports in a timely manner, and maintain my "handwritten copy to secretary—typewritten copy to me—edited copy to secretary—final report to me" approach? At the time, my wife and I were offering weekend fearful-flyer seminars for American Airlines, and our manager expected a report on Monday mornings. Our manager graduated from the Stanford University MBA program, and she knew a thing or two about report writing. She suggested that we purchase a computer. When I protested that I could not type, she observed, "you don't need to be able to type to use a computer, although it helps." "Really!" I exclaimed. She then explained the hunt-and-peck system she used, and I realized that I could indeed "type." I then purchased a computer while fending off the "I told you so comments" from my spouse. The 286 computer that I purchased had no mouse and was as slow as molasses by today's standards. But the results of my work came so quickly and so neatly that I felt like a caveman who just invented the wheel. In fact, my vision of myself as a Neanderthal was not far off the mark. Unfortunately my satisfaction with my newfound technological prowess was so delusional that I ignored the development of the 386 and 486 computers until the

university installed a 486 in my office. I also ignored campus rumblings about another phenomenon: the Internet.

The Epiphany

In 1996 the University of North Carolina at Chapel Hill completed the installation of a fiber optic network, and my computer was connected to the university Intranet as well as the Internet. The faculty of the School of Education and I were told that all internal communication would come to us via e-mail. I refused to accept this idea, partially because my computer was out of order, and partially because I did not wish to change. The result was that I missed the note telling me that textbook orders were due and that I needed to sign up for a parking sticker. Realizing that I was about to be without many of the essentials a professor needs in order to do his or her job (actually almost losing my parking place was the biggest jolt), I acquired a password and opened my e-mail. The computer screen blinked to life with the notation, "You have 1,336 new messages." I was astounded, and my first inclination was to erase all 1,336 messages and start from scratch. However, my computer, which seemed to be getting smarter all the time, would not allow me to erase the messages except one at a time. To my delight I found some precious kernels of information among mostly chaff. I learned that a professor from Japan had heard one of my presentations and was interested in discussing some of my work. An old lost friend wrote that he had discovered my e-mail address and wondered how I was doing. A former student had a position open and wondered if we had students who might be interested. Amazingly, 20 or so of the 1,336 messages dealt with vital "stuff." Even more surprisingly, I could respond using my now well-developed hunt-and-peck approach to the keyboard. E-mail has potential!

Within a week of opening my e-mail at the university, I contacted an ISP (Internet service provider) and gained access to the Internet both at home and at the university. My first efforts at surfing the net were conducted at home with no particular purpose. On one occasion I typed in career development and hit enter. My poorly designed search yielded over 1 million matches. As I began to explore some of these matches, an almost childlike wonder replaced the skepticism that I had about the utility of technology and what

can be found in cyberspace. The potential of the computer and the Internet as a communication tool, a means for self-instruction, and a tool for teaching others seemed limitless. Technology made my reports neater, freed my secretary from the misery of interpreting my handwriting, and made me a better informed professor. However, I had only begun to realize the potential of the Internet as an educational tool.

HOW I LEARNED TO ACCOMMODATE CYBERSPACE, TECHNOLOGY, AND COUNSELOR EDUCATION

In 1998 the School of Education hired a new dean. She immediately declared that one of her points of emphasis would be distance education. My concept of distance education at the time was what I practiced at Iowa State University (ISU) and West Virginia University (WVU). Distance learning at WVU and ISU involved getting into a car, driving 50 to 150 miles, teaching a class, and returning to campus dead tired. The new dean made it clear that this old-fashioned idea of distance learning was not what she had in mind. Distance learning was to involve video conferencing and web-based training. Video conferencing was not a new idea to me because some professors in the School of Education had telecast courses to other sites such as Charlotte, NC, with considerable success. Furthermore, video conferencing was not as threatening to my concept of counselor education as web-based training because video conferencing is conducted in real time, is face-to-face, can involve student-to-student interaction, and involves student-professor interaction that is not greatly different from what happens in a typical classroom. The fact that 25 to 300 miles of geography separates students and professors poses certain barriers to the instructional process. However, with the development of powerful computers equipped with ProShare® that allow one-on-one and small-group face-to-face interactions, many of these obstacles can be overcome. Even persistent reports from other counselor educators that students who participate in a video-conferencing course often complain of the lack of direct contact with the professor did not dampen my optimism about the potential of video conferencing. I believed then, and continue to believe, that the problems that people experience with video conferencing stem primarily from lack of

experience and in no way lessen the potential of this technology to reach audiences otherwise unreachable. At this point, I have not taught my first course using video conferencing, but I am not greatly concerned about the outcomes of the courses I will teach in the near future.

In 1998, however, web-based training still seemed like an unlikely instructional choice for counselor education courses. My view of web-based training was not unlike that of the professor who was asked why she was participating in a web-based training design course. She answered facetiously, "I'm interested in designing an impersonal counselor education program." The concept of a counselor education student taking a course with nothing more than an on-line set of directions and a computer to guide the learning process was so unacceptable I discarded it completely in the initial design of an off-campus program in school counseling. I drew my conclusions solely based on my biases—and then decided that perhaps I should be a bit more open-minded and do my homework. My exploration of web-based training continues to this day, but what I have done to this point has consisted of three phases.

The first phase of my exploration of web-based training I call the "informal Wally Hannum" phase. Dr. Hannum is a professor of instructional technology in the School of Education at the University of North Carolina at Chapel Hill. For the modest price of a lunch, he gave me an informal lecture on the perils and promises of web-based training and some material to read that he had prepared for publication. I emerged from our luncheon with one piece of priceless advice. Dr. Hannum suggested that anyone intending to use technology in the instructional process should first consider what his or her objectives are and then select the best instructional methodology to achieve those objectives. What he did not say, but was obvious to me, was that rejecting the use of technology without fully considering its potential as an instructional tool is folly.

My next task was to read the material that was provided to me during my luncheon meeting with Dr. Hannum. In this material he listed, among other things, the advantages and disadvantages of technology as an instructional tool. Hannum (in press) grouped drawbacks into three categories: logistical, instructional, and economic. The logistical advantages of web-based training involved

ease of scheduling courses for program administrators, increased flexibility for students because they can decide when to engage in the learning process, ease of access to other information such as journal articles on the Internet, and the relatively small effort required by professors to update courses. A major instructional advantage of web-based training includes the possibility of coordinating a number of instructional approaches such as video and audio segments and text to achieve specific learning objectives. Other instructional advantages of web-based training are that students control all aspects of the course including the pace, have the opportunity to review prerequisite material before proceeding with the learning process, and can review material and repeatedly practice skills to enhance their mastery. The primary economic advantage of web-based training is that information can be delivered at lower cost to both students and universities because of reductions in travel cost for students and facilities costs for universities. I was surprised to learn that web-based training does not seem to reduce faculty costs. Hannum indicated that initial web-based training course preparation time and time needed to provide oversight of the learning process during the delivery of a web-based training course varies little from traditional instruction.

Web-based training also has disadvantages. From a logistical point of view, the inability to use lengthy video clips because of the time it takes to download them stands as a major disadvantage. Assessment of the outcome of web-based training also poses logistical problems. Although examinations can be placed on-line, students cannot be monitored as they take the examination. This forces instructors to either vary their evaluation efforts or to ask students to come to a centralized location to take examinations. The major instructional limitation of web-based training for counselor education is that the development of counseling skills may not be possible, but this is by no means a certainty. Another instructional limitation of web-based training occurs whenever the material being delivered requires that it be learned in sequence. There are no assurances in these courses that students follow the prescribed sequence, particularly when some of the elements in the sequence are boring or more difficult. The fact that web-based training requires the use of e-mail, chat rooms in real time, and asynchronous or threaded chat

may also be a disadvantage of this instructional approach. Students must learn to use them in order to maximize their learning, and the acquisition of these skills may be daunting tasks for some students. However, learning these skills may also be an advantage to students in the long term. Standards adopted recently the Association for Counselor Education and Supervision (ACES, 1999a; see Appendix 2) make it clear that counselor education students need to learn these and other technical competencies.

One of the major economic disadvantages of web-based training is that initial course preparation probably takes longer than the preparation of a course that is to be delivered using a traditional format. Moreover, Hannum (in press) was of the opinion that the cost advantages that normally accrue through the use of web-based training are lost when group size falls below 12, although he offered no empirical support for this position. My own limited experience suggests that Hannum is on target with his observation that web-based training courses require more preparation time than traditional courses, but there are several applications of web-based training in counselor education courses that should not be overlooked. (The applications will be discussed later.)

The second, more formal phase of my exploration of web-based training began after my initial discussion with Dr. Hannum and my examination of the materials that he provided. I felt reassured that web-based training has possibilities for offering courses and portions of courses to students. I attended a series of formal presentations that dealt with courseware, that is, software packages that can facilitate the process of preparing web-based training courses. I also delved into areas such as the newly approved ACES standards for distance learning (ACES, 1999b).

During the formal learning stage of my orientation to web-based training, I learned, among other things, that courseware packages are not the same. Some, particularly Blackboard.com, have a number of features that simplify the preparation of courses. I was particularly delighted to find that I could use my word processing program to prepare lessons and then cut and paste them into the various Blackboard.com modules. Blackboard.com will also administer tests that have been placed in a course, make them available at specified times, score tests and place the results in a virtual

grade book, and keep track of student involvement during on-line chats. Perhaps more importantly, students who provide incorrect responses to test questions can be directed to material within the course that provides the correct information. Although I have not mastered Blackboard.com or any other courseware package, after 12 hours of training I can perform most of the essential tasks needed to prepare an on-line course.

The most important thing I learned during the more formal part of my introduction to web-based training is that I do not have to learn computer languages or new technological skills in order to develop on-line courses. I still do not know what *html* means, let alone possess the ability to use it to prepare an on-line course. Software developers have "dumbed down" computer languages, and now I can better understand and use them. Additionally, I learned to show my ignorance, which was undoubtedly obvious anyway, and ask questions. I know that one of the seminar leaders was a bit frustrated with me when I insisted that he sit with me while I learned to design a particular aspect of my course. In some ways I am in the same place with my ability to design web-based training courses as I was nearly 18 years ago with my typing course: last in the class. However, I have now written several publications, including this one, with my hunt-and-peck method of typing, and I am confident that I can use my course design skills to craft new learning experiences.

The third phase of my exploration of web-based training was to complete the design of my first web-based training course, a project that was begun in one of the seminars I attended. I concluded that the best time to work on the design was when I was teaching the course traditionally. I also decided that it might be a good idea to pilot test some of the units so that student feedback could be obtained. Students enjoyed the unit on designing programs to prevent sexually transmitted diseases (STDs) but hated the test that covered this area. They liked the unit because it included many links to web sites filled with interesting information, pictures, and stories. Although I have never been able to develop an objective test that students liked, the nature of the feedback that I received on this test made me think momentarily that my role in life is to torment students. In retrospect I may have made an error by giving

students a series of exercises to complete using the information on the web sites that were included in the unit. Although I did not specify as much, I believe that students concluded that if they answered the questions and completed the exercises they would be prepared for the examination. The answers to questions on the test could be found in the assigned web sites but were not necessarily related to the assignments. I concluded that next time I must be more specific. Others who are engaged in web-based training have told me that one of the most difficult aspects of designing a web-based training course is being explicit enough that even the student with the lowest ability to follow directions can complete the assignment successfully. I now fully understand why they made this observation. I also understand the need to pilot test modules and assignments before incorporating them into courses for which students pay hard-earned money.

WHERE I AM IN LATE 1999

My bias is still that much of what we teach in counselor education must be taught professor to students using either traditional methods or video conferencing regardless of whether the courses are on or off campus. For example, it is hard for me to imagine teaching an entire group process or counseling techniques course using web-based training, but I am open to the idea that the knowledge and skills needed in these areas can be taught using video conferencing. However, I am convinced that much of the didactic content that counselor educators teach, including counseling and career development theory, measurement theory, social and cultural foundations, and professional issues can be taught as well using web-based training courses as they can using traditional approaches. I am also convinced that some of what we teach can be better taught using web-based training. Web sites provided by the U.S. Department of Labor (http://www.dol.gov/) and the Bureau of Labor Statistics (http://www.stats.bls.gov) can help students find and use occupational information and obtain projections about occupational growth and decline. Clearinghouses such as the one developed by ERIC/CASS—International Career Development Library (ICDL) (http://icdl.uncg.edu/reference.html) (see also chapter 12)—can help students acquire information about professional

organizations, conduct literatures searches using ERIC databases and on-line journal articles, and access America's Career Kit, which includes America's Job Bank, America's Talent Bank, America's CareerInfonet, and America's Learning Exchange. Students can file electronic resumes and conduct job searches in cyberspace using America's Job Bank, learn to identify educational opportunities using America's Learning Exchange, or access important sources of occupational information such as the *Occupational Outlook Handbook* (U.S. Department of Labor, 1994) from ICDL. ICDL also provides links to other learning houses such as The Riley Guide and What Color Is Your Parachute? Job Hunting Online, both of which contain a wealth of resources regarding the job search. As the title International Career Development Library suggests, links are also provided to information about occupations in a limited number of other countries such as Canada and New Zealand.

Using on-line resources can be incorporated into a traditional course in the form of outside assignments. However, in web-based training courses they can inserted into text, hyperlinked to web sites, and thus incorporated into the learning process instantaneously. Students can also be introduced to inventories such as the Career Key (Jones, 1997) that was designed to measure Holland's (1997) constructs. Students can take the inventory on-line and learn how their results can be linked instantaneously to the information found in the *Occupational Outlook Handbook*. Web sites focusing on the prevention of drug use, problem pregnancies and STDs, and child abuse offer rich sources of information on these topics that may not be available in textbooks. School violence holds center stage in American education today, and the Internet offers a variety of sources that can assist school counselors to reduce violence in their schools. School counselors can also find a storehouse of financial aid information, data about community and 4-year colleges, and a wealth of other information for students who expect to attend a postsecondary institution. The list of uses of web-based training, whether incorporated into on-line lessons or assigned as part of traditional courses, is endless.

Recently we have embarked upon an attempt to design a virtual career development laboratory. This laboratory will allow on and off campus students to explore occupational information not available

on the Internet, view samples of tests and inventories, access directories of web sites, explore computer-assisted career guidance systems, and receive instruction on the use of complex systems such as O*NET. The effectiveness of this laboratory is unknown at this time. However, its conceptualization was stimulated by my exploration of the potential of web-based training, and the result may be that both traditional and on-line instruction will be enhanced.

The use of web-based training is constrained by traditional thinking. Tom Hohenshil (1999) reported to our faculty that one of the first things he had to do was discard the ideas that web-based training should parallel traditional instructional processes. When counselor educators design a traditional course, they begin by considering the objectives they hope to accomplish and then choose learning experiences that will achieve their purposes. Does this sound familiar? It is identical to the advice I received from Dr. Hannum in my introduction to distance learning. Typically, professors select from strategies such as lecture/discussion, simulations, role-plays, case study analyses, research papers, in-class presentations, projects, and discussion/study groups. Web-based training offers the instructors the same range of options. Lectures can be inserted into lessons as text or audio clips, chat rooms can replace discussion groups and question and answer sessions, simulations can be inserted, and case studies can be analyzed and discussed. Currently, web-based training does not provide opportunities for role-playing, but computers equipped with video cameras will allow students to form linkages in cyberspace and avail themselves of this opportunity.

It is also worth noting that one of the limitations of web-based training noted earlier—the limitation on the use of videotapes as an instructional modality—will soon be eliminated. The use of video is currently restricted because of narrow band technology and slow modem speed that slows the downloading time and delays transmission. Frankly, I cannot define bandwidth, but I know that narrow band technology will be replaced by wide band technology in the very near future, and the faster modems are already available. The result is that extensive use of videotape in web-based training will soon be possible.

Some of the most exciting applications of technology for counselor educators have nothing to do with web-based training courses

or traditional uses of video conferencing. Available technology offers counselor educators the opportunity to enhance the quality of field activities such as supervision and staffing. John Galas, who is a member of the counselor education faculty at the University of North Carolina at Chapel Hill, has worked with professors from school psychology and school social work programs to bring students from the three programs together to staff their clients and draft treatment plans for them. What is unique is that the professors are on the University of North Carolina at Chapel Hill campus and the students are in a field setting. Moreover, it is now possible through the use of computers equipped with Proshare® to view a counseling session in progress and to conduct individual and group supervision sessions with students at off-campus sites while remaining on campus.

Information that can be incorporated into the counseling process is available on-line and is more up-to-date than much of the information currently used for bibliography (Srebalus & Brown, in press). Students headed for private practice can be taught how to use the Internet as a marketing tool, and school counselors can learn how to use their own web sites to disseminate information to parents and students. Students should learn to apply these skills as portions of their field experiences. Also, as already noted, on-line tests and inventories can be used to facilitate the counseling process in many instances.

CONCLUSION

Will high tech replace high touch? I do not believe that it will. However, caring and concern can be demonstrated in a number of ways including the efficient use of the client's time, providing services using modalities that are suited to the client's preferences, and using approaches that are culturally sensitive. Technology can and should be used to enhance the services that we provide to clients. Similarly, counselor educators have an obligation to continue to explore effective and efficient means of preparing professional counselors. The ACES (1999b) *Guidelines for On-Line Instruction in Counselor Education* (http://www.chre.vt.edu/1-s/thohen/ACEWEB.htm) under the course quality section suggest that distance learning approaches "must offer, at a minimum, an

equivalent opportunity to that provided in a traditional course" (p. 10). This of course assumes that traditional approaches to training counselors are the best way to facilitate the training process. The ACES guidelines, which cover numerous concerns that must be addressed in the design and delivery of on-line courses, are the proper starting point as we consider the use of web-based training, video conferencing, and other approaches to training. However, these standards should not be the last word on distance learning or training in general. I foresee a time when we will conclude that technological approaches and use of the resources available in cyberspace may be superior to traditional approaches in teaching certain skills and facts. It has taken me 18 years to reach this point, and I am excited about testing this, my most recent hypothesis about technology and cyberspace.

Finally, I offer the following advice to counselor educators who are relative newcomers to web-based training, video conferencing, and the concept of distance learning:

1. Keep an open mind about the use of on-line courses and video conferencing as instructional tools. They will not replace some of the instructional methodologies that we now employ, but they have a place in counselor education programs.
2. Travel to an institution that uses web-based training or video conferencing as instructional approaches or hire a consultant to discuss the potential of distance learning with your faculty.
3. Keep abreast of the new developments in the delivery of information via the Internet. Wide band technology and faster modems will allow us to use videotape on an unlimited basis in our instruction.
4. Software programs such as ProShare® coupled with video cameras mounted on computers will allow us to converse with students who are off campus. This development, along with the development of higher speed computers, provides counselor educators with the potential to provide distance supervision that may be superior to the supervisory methods we employ today.
5. Enroll in a continuing education course or workshop with a knowledgeable professional. Although some people have designed courses and experiences without instruction, at this point

in time this is an unnecessarily stressful approach to designing distance learning courses. Available courseware makes the design of web-based training courses quite simple.

6. Stay abreast of the developments of clearing houses such as ICDL. The information contained on these web sites and the links to other databases greatly ease the process of accessing data.
7. Encourage doctoral students who are in need of research projects to conduct evaluation studies and empirical tests of the relative value of distance learning. Do not encourage them to conduct the mostly meaningless surveys that solicit the opinions of counselor educators about the value of distance learning in counselor education. I suspect that most counselor educators are like me, unable to give an informed opinion regarding the true worth of distance learning at this time.

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PART II

Infusing New Technology Into Counseling, Education, and Human Services